NuMI Beam Permit System

An Operational Tour

Bob Ducar 9-Feb-2005

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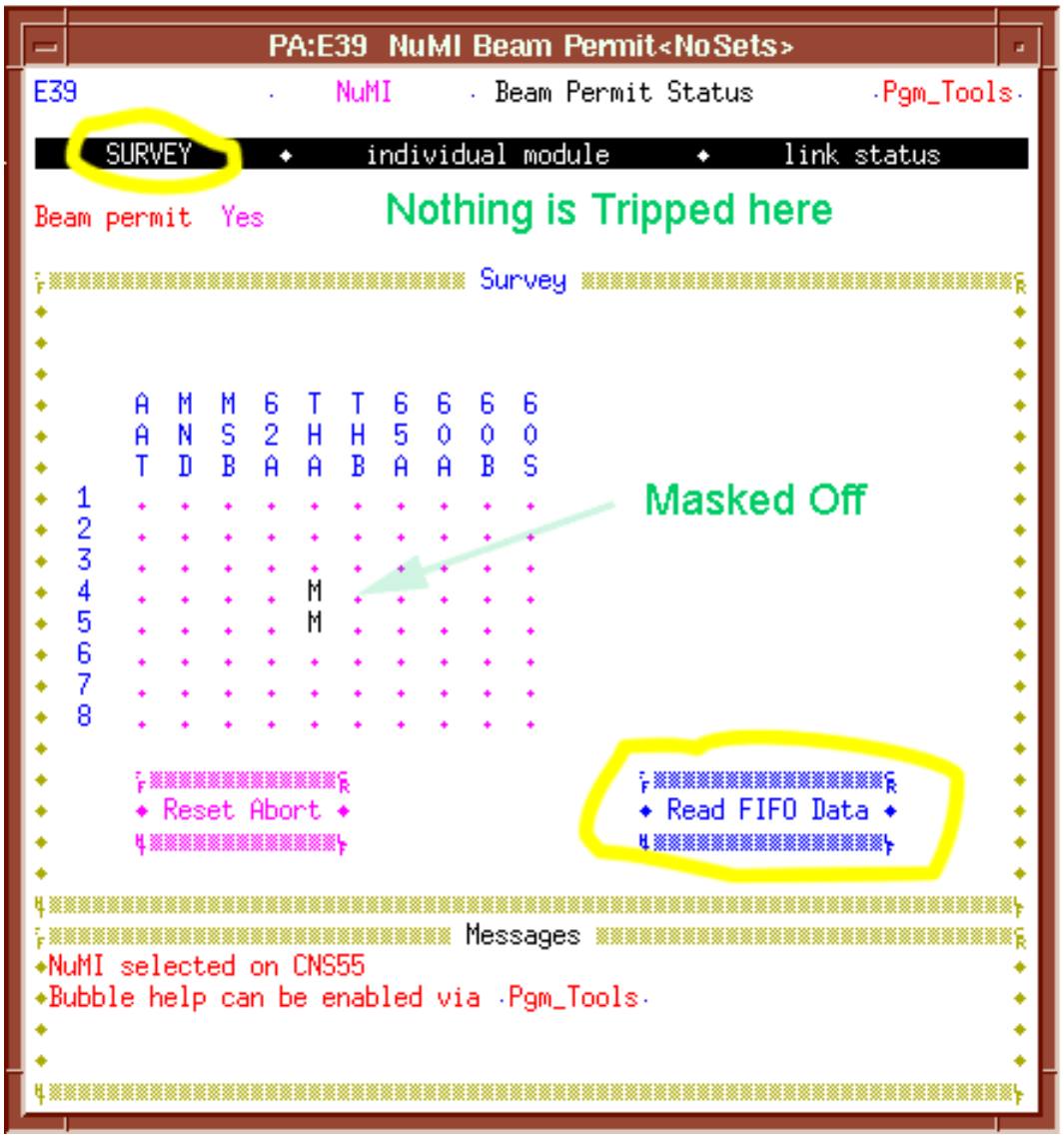
NuMI Beam Permit System (C200 Modules)

- **Beam Permit Falls (Red LED by NuMI Beam Switch)**
- **Go to Page E39 and Select "Survey"**
- **Observe Location of Trip**
- **Interrupt (Intr) on "Read FIFO Data"**
- **Intr on Column with Red Stars or Select "Individual Module" to See Which Input Has Tripped.**
- **Investigate Trip Condition**

E39 Survey View

Colors

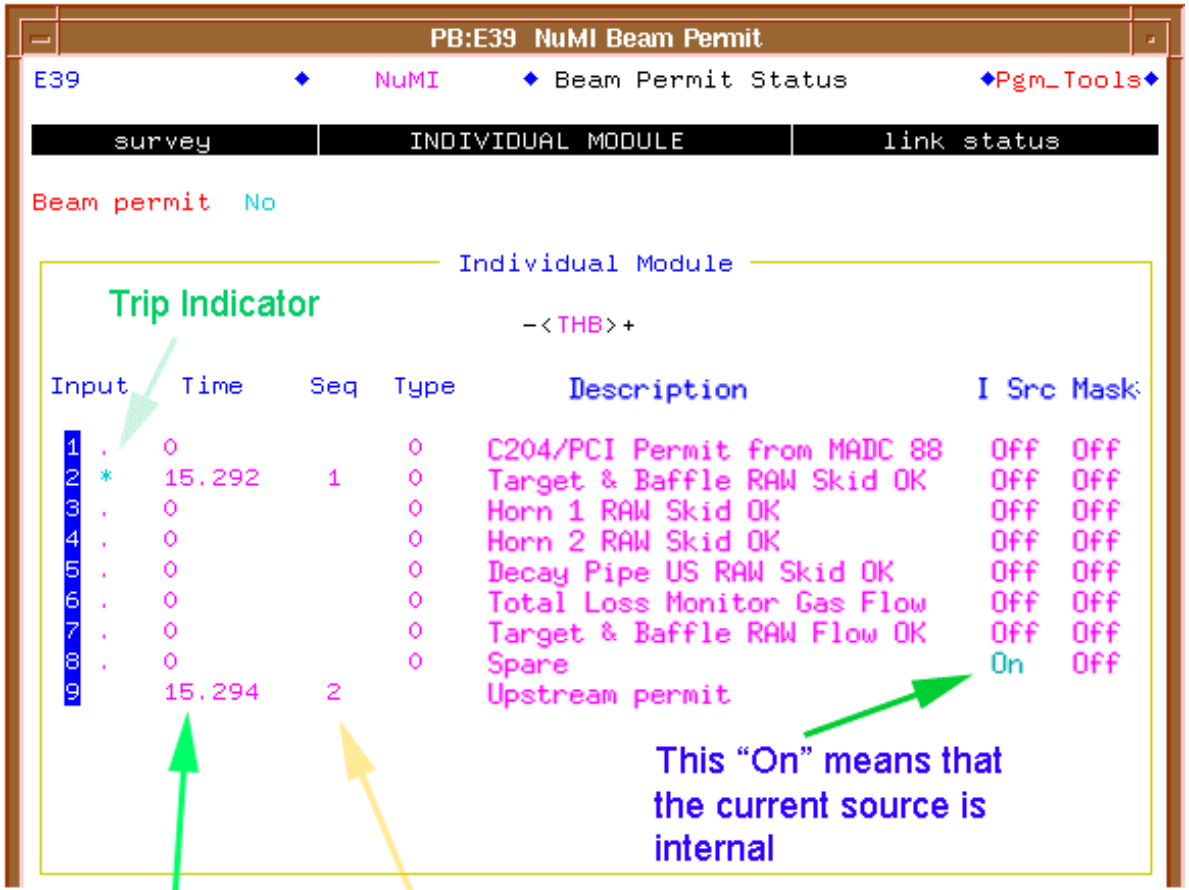
Inverted



E39 Individual Module View

Colors

Inverted



The time is time after the $A23 event, in seconds, when the trip occurred. The column "Seq" is the sequence in which the trips occurred. These values are not accurate if "Reset FIFO Data" wasn't done.

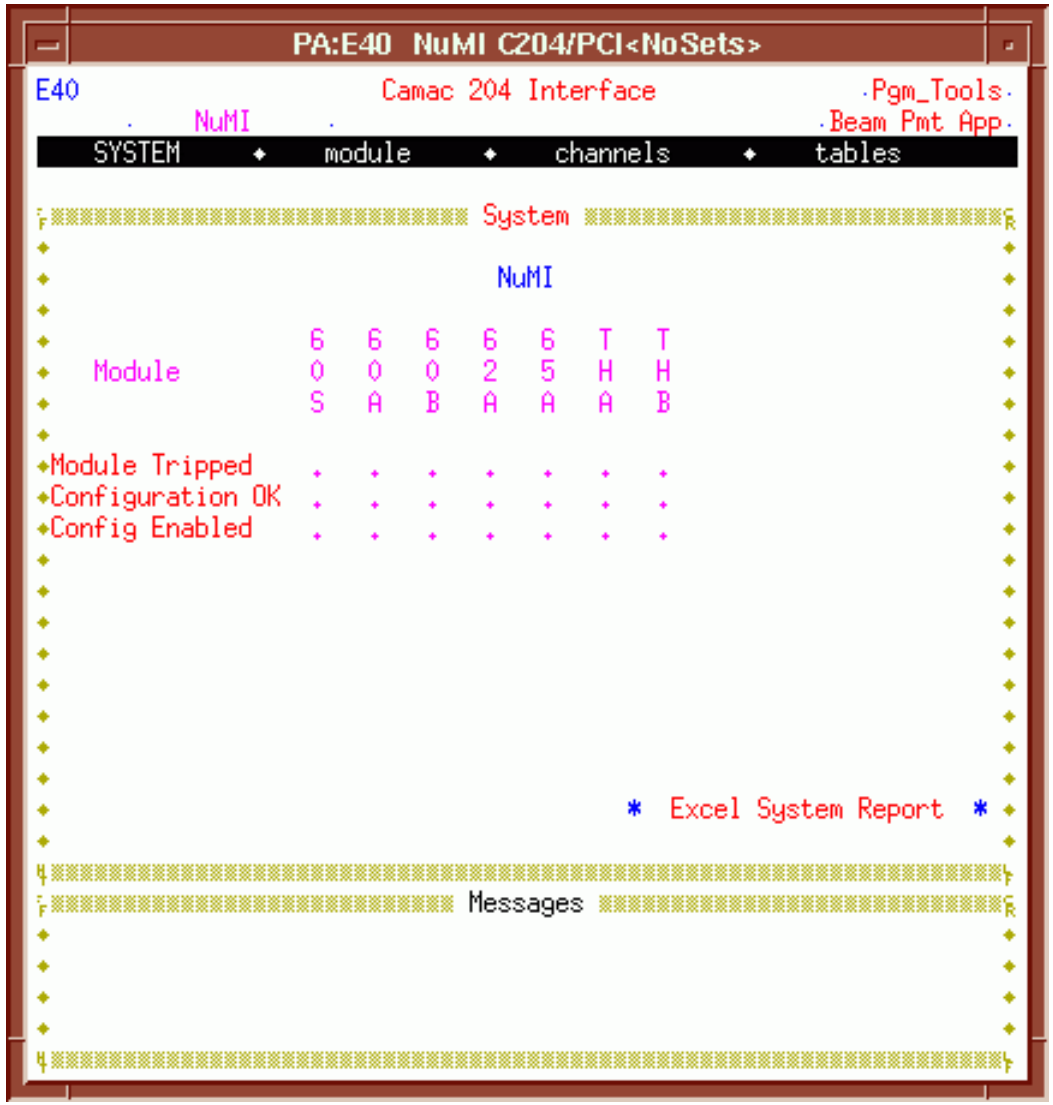
IF the Trip is from C204/PCI

- Go to Page E40 and Select “System” to Determine the Location of the Tripped C204/PCI
- Intr on Either the Column with Red Stars or Select “Module”
- Intr on “Tripped Channels Summary” to See Which Channels Tripped
- Investigate

E40 System View

Colors

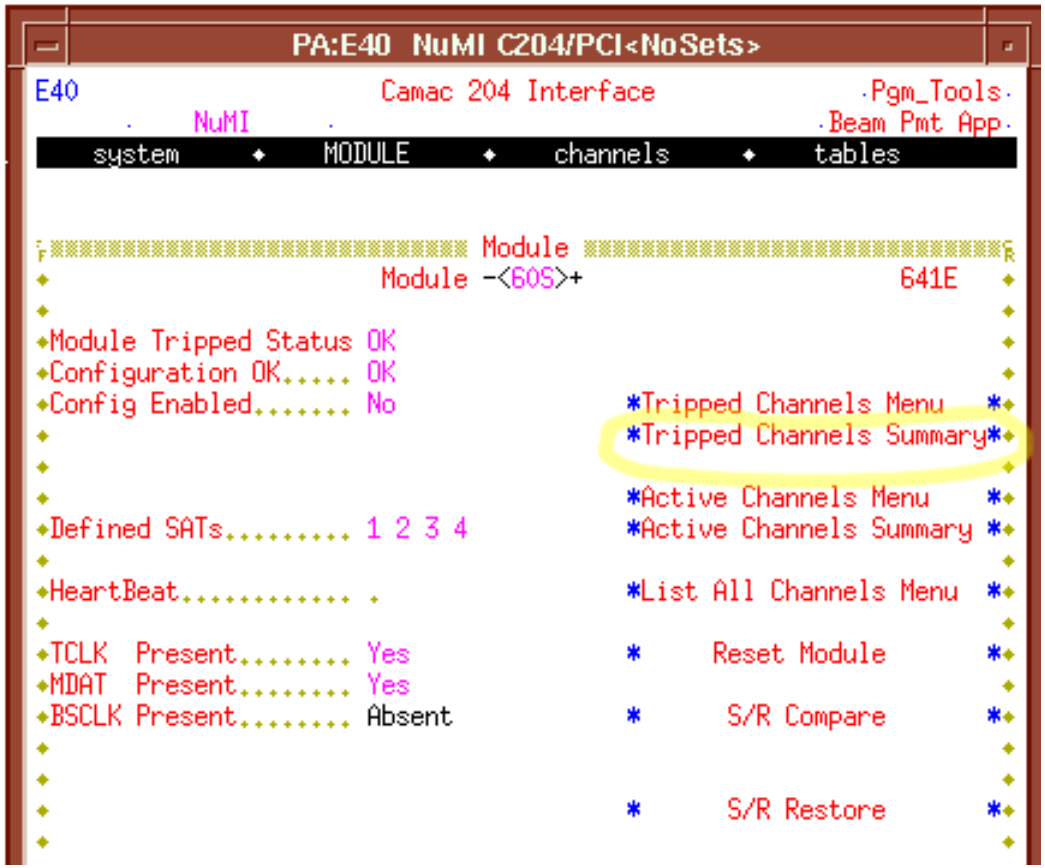
Inverted



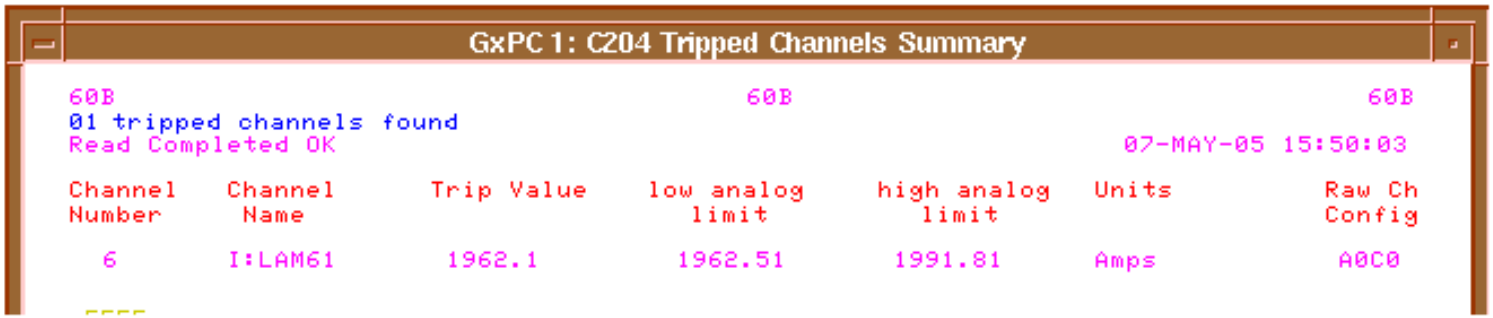
E40 Module View

Colors

Inverted



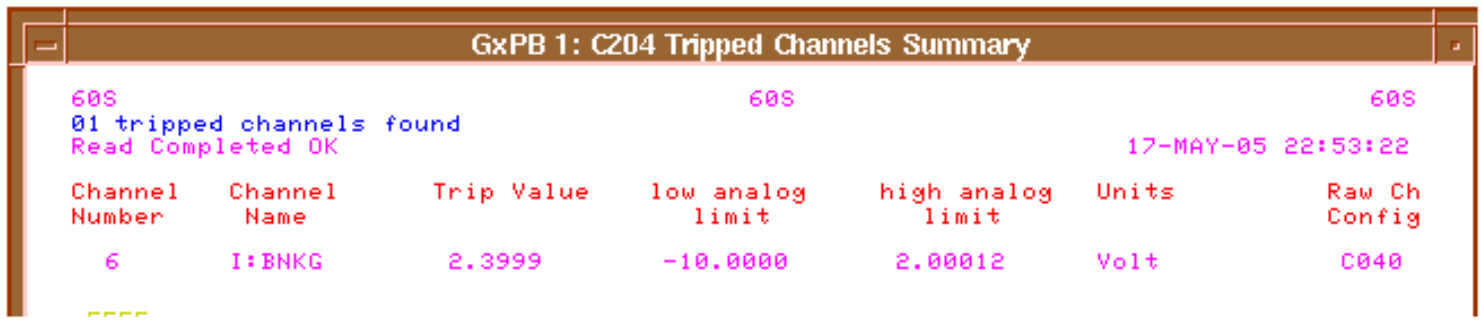
Examples of tripped channels



GxPC 1: C204 Tripped Channels Summary

60B 60B 60B
01 tripped channels found
Read Completed OK 07-MAY-05 15:50:03

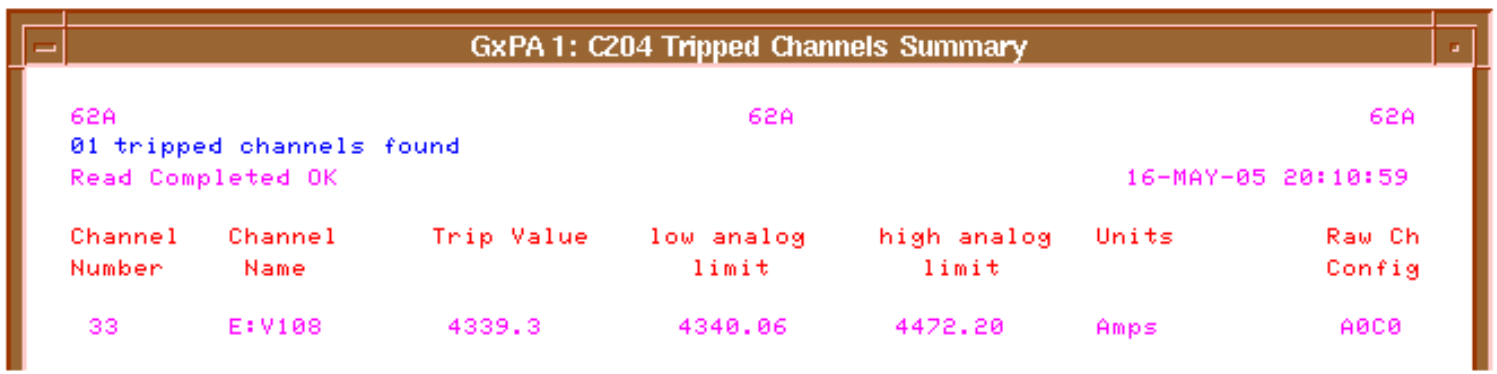
Channel Number	Channel Name	Trip Value	low analog limit	high analog limit	Units	Raw Ch Config
6	I:LAM61	1962.1	1962.51	1991.81	Amps	A0C0



GxPB 1: C204 Tripped Channels Summary

60S 60S 60S
01 tripped channels found
Read Completed OK 17-MAY-05 22:53:22

Channel Number	Channel Name	Trip Value	low analog limit	high analog limit	Units	Raw Ch Config
6	I:BNKG	2.3999	-10.0000	2.00012	Volt	C040



GxPA 1: C204 Tripped Channels Summary

62A 62A 62A
01 tripped channels found
Read Completed OK 16-MAY-05 20:10:59

Channel Number	Channel Name	Trip Value	low analog limit	high analog limit	Units	Raw Ch Config
33	E:V108	4339.3	4340.06	4472.20	Amps	A0C0

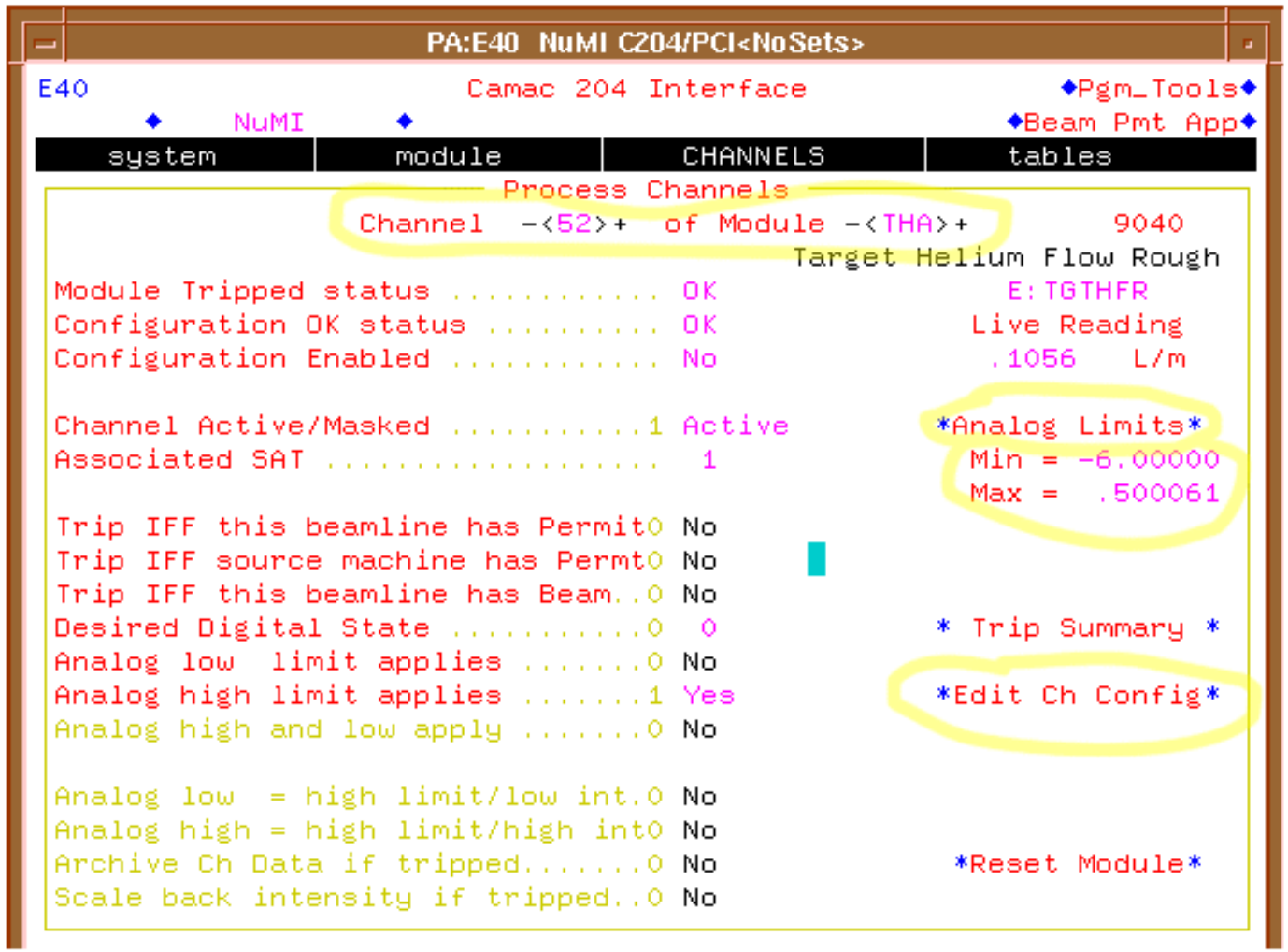
Changing Analog Limits

- **Select "Channels" and Select Proper Location and Channel (Reference Golden File and/or Tripped Channel Summary)**
- **Intr at *Analog Limits* to Enable Change of Either of the Entered Min or Max Analog Values, But Not Both**
- **Overtype in New Value and Intr**
- **Intr on the Pop-Up to "Enable Configuration" and Send the New Value**

E40 Individual Channel View

Colors

Inverted



Masking (or Unmasking) C204/PCI Channels

- Intr at *Edit Ch Config* to Enable Change
- On “Channel Active/Masked” Line, Intr on Current State Between <…> and Select Desired State
- Intr at *Send Configure* to Enter New State

NuMI Beam Permit System (C200 Modules)

Masking (or Unmasking) C200 Channels

- On E39, Select “Individual Module”
- Intr in Right “Mask” Column for Desired Channel
- Intr on the Pop-Up to Make Change
- Note That Current Sources are Programmed OFF for Connected Channels
- Current Sources Must be ON for Spare Channels. Current Sources are OFF for Connected Channels.

NuMI Beam Permit System (C200 Modules)

Reseting the NuMI BPS

- **On E39, Select "Survey"**
- **Intr in the "Reset Abort" Box**
  (This Action Resets Both C200 and C204/PCI Hardware)
- **BPS Will Clear if Conditions Allow**
  (Green LED by NuMI Beam Switch)
- **Be Aware That Some C204/PCI Conditions are Checked Only on the $A5 NuMI Cycle**
  (Be Patient for This to Happen)
- **Back to Text Slide 2 if BPS Does Not Reset Immediately or Upon Occurrence of the $A5 Cycle (Red LED by NuMI Beam Switch)**

General Advice

- **Changes to the Beam Permit System Require Consent of the NuMI Commissioning Coordinator**
- **Document Changes in the NuMI E-Log**
- **C200 Inputs are Always Active**
- **C204/PCI Stops Checking When Tripped**
- **Alteration of State Algorithm Tables (SATs) or of Timing Channel Settings are Reserved to BPS System Experts**